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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,240	05/30/2001	Mark C. Duhon	22.1397	8266

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SCHLUMBERGER RESERVOIR COMPLETIONS
14910 AIRLINE ROAD
ROSHARON, TX 77583

EXAMINER	
GAY, JENNIFER HAWKINS	
ART UNIT	PAPER NUMBER
3672	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/871,240	DUHON ET AL.	
	Examiner	Art Unit	
	Jennifer H. Gay	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3,5-11,27-39 and 42-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11,32,34,37,39,42 and 43* is/are allowed.

6)☒ Claim(s) *2,3,5-10,27-29,33,35,36 and 44-49* is/are rejected.

7)☒ Claim(s) *30,31 and 38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2, 27, 28, 30, 31, 33, and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arizmendi (US 5,941,313) in view of Maehara et al.

Regarding claim 2: Arizmendi discloses a downhole seal **26** that is engagable with a stainless steel element **22** (4:30-33).

Arizmendi discloses all of the limitations of the above claim(s) except for the element being a superplastic material.

Maehara et al. discloses a steel material that is a superplastic material. Maehara et al. further teaches using the material in a wellbore environment (1:64-2:5).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Arizmendi such that the steel of the element was a superplastic steel as taught by Maehara et al. in order to have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (1:64-2:5). One would have been motivated to make this combination in order to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

Regarding claim 27: The compression of the element of Arizmendi aids in the compression of the seal.

Regarding claim 28: The seal of Arizmendi is a packer.

Regarding claim 30: Maehara et al. discloses a superplastic element used in a wellbore and a heating device/process for heating the element to a temperature sufficient to cause the element to exhibit superplastic behavior (1:64-2:5).

Regarding claim 31: The seal further includes a piston **28** adapted to cause the translation of the element.

Regarding claim 33: The element and seal of Arizmendi are compressed to plug or block fluid through the casing **14**.

Regarding claims 44-46: Though Maehara et al. does not teach that the disclosed superplastic material had the specific properties listed in the above claims, the indicated properties are common properties of some superplastic materials. As Maehara et al. teaches that it is well known to use superplastic materials in wellbore equipment, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used what ever superplastic material meet the specific requirements of the tool or operation within which it was to be used. Further, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used a superplastic material that had the indicated properties, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

3. Claims 2, 3, 27, 28, 30, 31, 33, 35, 36, and 44-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sullaway (US 4,151,875) in view of Maehara et al.

Regarding claim 2: Sullaway discloses a downhole seal **96** that is engagable with a steel element **11** (7:35-46).

Sullaway discloses all of the limitations of the above claim(s) except for the element being a superplastic material.

Maehara et al. discloses a steel material that is a superplastic material. Maehara et al. further teaches using the material in a wellbore environment (1:64-2:5).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Arizmendi such that the steel of the element was a superplastic steel as taught by Maehara et al. in order to have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (1:64-2:5). One would have been motivated to make this combination in order

to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

Regarding claim 3: Sullaway further discloses an anchor **17, 17'** actuatable by the element.

Regarding claim 27: The movement of the element of Sullaway aids in the compression of the seal.

Regarding claim 28: The seal of Sullaway is a packer.

Regarding claim 30: Maehara et al. discloses a superplastic element used in a wellbore and a heating device/process for heating the element to a temperature sufficient to cause the element to exhibit superplastic behavior (1:64-2:5).

Regarding claim 31: The seal further includes a piston **16** adapted to cause the translation of the element.

Regarding claim 33: The element and seal of Sullaway are compressed to plug or block fluid through the casing.

Regarding claim 35: The apparatus of Sullaway includes a packer and an anchor.

Regarding claim 36: The packer includes the element which is a sleeve attached to the anchor and the seal where the movement of the sleeve sets the anchor and the packer.

Regarding claims 44-49: Though Maehara et al. does not teach that the disclosed superplastic material had the specific properties listed in the above claims, the indicated properties are common properties of some superplastic materials. As Maehara et al. teaches that it is well known to use superplastic materials in wellbore equipment, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used what ever superplastic material meet the specific requirements of the tool or operation within which it was to be used. Further, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used a superplastic material that had the indicated properties, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US 4,102,395) in view of Maehara et al.

Robinson discloses a well screen that is made from stainless steel where the screen is used to filter such things as sand (1:43-53)

Robinson discloses all of the limitations of the above claim(s) except for the steel element being a superplastic steel.

Maehara et al. discloses a steel material that is a superplastic material. Maehara et al. further teaches using the material in a wellbore environment (1:64-2:5).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Robinson such that the steel of the element was a superplastic steel as taught by Maehara et al. in order to have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (1:64-2:5). One would have been motivated to make this combination in order to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miszewski et al. (US 5,131,470) in view of Hayden, Jr. et al.

Miszewski et al. discloses a downhole shock absorber that includes a steel element (6:8, 9).

Miszewski et al. discloses all of the limitations of the above claim(s) except for the element being a superplastic material.

Hayden, Jr. et al. discloses a steel material that is a superplastic material. Hayden, Jr. et al. further teaches using the material in a wellbore environment (21:32-41).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Miszewski et al. such that the steel of the element was a superplastic steel as taught by Hayden, Jr. et al. in order to have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (21:20-41). One would have been motivated to make this

combination in order to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 6,454,001) in view of Hayden, Jr. et al.

Thompson et al. discloses a downhole steel releasable connector mechanism (6:4-7).

Thompson et al. discloses all of the limitations of the above claim(s) except for the element being a superplastic material.

Hayden, Jr. et al. discloses a steel material that is a superplastic material. Hayden, Jr. et al. further teaches using the material in a wellbore environment (21:32-41).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Thompson et al. such that the steel of the element was a superplastic steel as taught by Hayden, Jr. et al. in order to have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (21:20-41). One would have been motivated to make this combination in order to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosse-Platiere (US 4,191,265) in view of Hayden, Jr. et al.

Bosse-Platiere discloses a downhole shaped charge that includes a steel element (4:32-37).

Bosse-Platiere discloses all of the limitations of the above claim(s) except for the element being a superplastic material.

Hayden, Jr. et al. discloses a steel material that is a superplastic material. Hayden, Jr. et al. further teaches using the material in a wellbore environment (21:32-41).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Bosse-Platiere such that the steel of the element was a superplastic steel as taught by Hayden, Jr. et al. in order to

have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (21:20-41). One would have been motivated to make this combination in order to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mohaupt (US 4,081,031) in view of Hayden, Jr. et al.

Mohaupt discloses a downhole weak point connector that includes a steel element (7:46-48, 8:61-65; the examiner notes that column 7 teaches that the housing **24** can be made from steel and that the housing is considered to be a portion of the weak point connector).

Mohaupt discloses all of the limitations of the above claim(s) except for the element being a superplastic material.

Hayden, Jr. et al. discloses a steel material that is a superplastic material. Hayden, Jr. et al. further teaches using the material in a wellbore environment (21:32-41).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Mohaupt such that the steel of the element was a superplastic steel as taught by Hayden, Jr. et al. in order to have improved the corrosion resistance, strength, fatigue resistance, and toughness of the apparatus (21:20-41). One would have been motivated to make this combination in order to have increased the life span of downhole equipment and thus reducing the cost of replacement parts and the operation to replace the failed equipment.

9. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arizmendi in view of Maehara et al. as applied to claims 2 and 27 above, and further in view of Taylor et al. (US 4,817,716).

Sullaway and Maehara et al. discloses all of the limitations of the above claim(s) except for the apparatus including a patch.

Taylor et al. discloses a packer type of patch (1:5-15).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Sullaway in view of Maehara et al. to include a patch as taught by Taylor et al. in order to have included a means for sealing trouble zones of a wellbore or damaged casing.

10. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sullaway in view of Maehara et al. as applied to claims 2 and 27 above, and further in view of Taylor et al. (US 4,817,716).

Sullaway and Maehara et al. discloses all of the limitations of the above claim(s) except for the apparatus including a patch.

Taylor et al. discloses a packer type of patch (1:5-15).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Sullaway in view of Maehara et al. to include a patch as taught by Taylor et al. in order to have included a means for sealing trouble zones of a wellbore or damaged casing.

Allowable Subject Matter

11. Claims 11, 32, 34, 37, 39, 42, and 43 are allowed.

12. Claims 30, 31, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments filed January 29th, 2007 have been fully considered but they are not persuasive.

Applicant has presented individual arguments for each of the independent claims rejected under 35 USC 103. Each of these arguments stresses that the primary references do not teach the use of a superplastic material and that there is no motivation to combine

the two applied references. As all of the arguments are essential the same, the following response applies to all such arguments.

Applicant has argued that the primary references do not teach the use of a superplastic material. However applicant is arguing the reference and rejection as if applied under 35 USC 102. Under 35 USC 103 the primary reference will not include all of the claimed elements and may not include an indication that the inclusion of the missing elements would be desirable. The application of a secondary or modifying reference overcomes the deficiency of the primary reference when the secondary reference includes sufficient motivation for making the modification. In this instance, Maehara clearly teaches why the use of a superplastic material would be beneficial thus providing motivation to modify the primary references. The burden of obviousness has been met.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached Mon., Tues., Thurs., and Fri. from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer H Gay
Primary Examiner
Art Unit 3672

JHG
March 8, 2007